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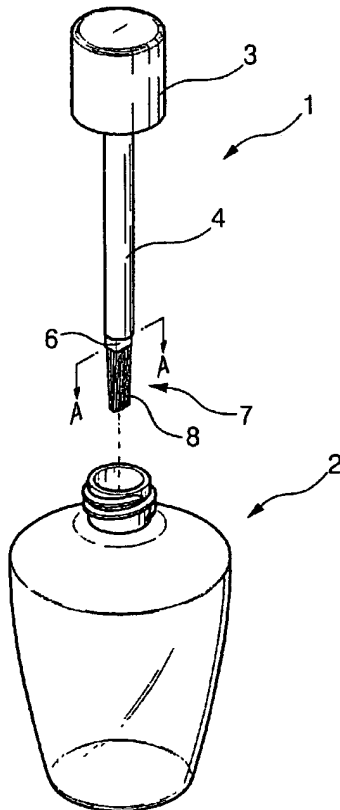
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(54) Title: COSMETIC APPLICATOR



(57) Abstract: The present invention relates to a cosmetic applicator. The cosmetic applicator comprises a rod and a brush. The applicator is formed with a fixing portion pressed to be flat at a lower end of the rod into which the brush is fixedly inserted. Since the brush has a flat face defined by the fixing portion, a region that requires delicate operation can be easily cosmeticized. Further, even when the brush is caused to enter and be withdrawn from a container with a small mouth, it is possible to prevent the brush from being curved outward or bristles of the brush from being entangled. Moreover, since the fixing portion is formed in the rod itself, there is no need for an additional means for making the brush in a flattened shape. Thus, the number of components for the cosmetic applicator can be reduced while an effect of application of cosmetics is further improved. Accordingly, production costs of the cosmetic applicator can be lowered and productivity thereof can also be enhanced.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## COSMETIC APPLICATOR

## Technical Field

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The present invention relates to a cosmetic applicator, and more particularly, to a cosmetic applicator, wherein a lower end of a rod of the cosmetic applicator into which a brush is fixedly inserted is pressed flat together with the brush so that an upper end of the brush is secured to the pressed lower end of the rod and the brush has a flat face, whereby when cosmetics are applied to predetermined regions of the human body by using the brush, the flat face of the brush allows cosmetics to be easily applied to regions of the human body requiring delicate operation, and distortion of the shape of the brush can be prevented when the brush is inserted and withdrawn from a container for containing the cosmetics.

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## Background Art

As for the different kinds of cosmetics usually used, there are solid cosmetics such as lipstick, cheek color and eye shadow, and liquid cosmetics such as lip gloss and nail polish. Upon use of such cosmetics, an applicator in the form of a brush is generally used.

As an example of an applicator used for applying solid cosmetics such as ~~lipstick~~, cheek color and eye shadow, a cosmetic applicator 10 comprising a rod 14 used as a grip, an application brush 17 and a coupling member 19 for fixing the brush 17 to the rod 14 as shown in FIG. 5 has been used.

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Here, the coupling member 19 is formed in the form of a cylinder made of a

metallic material. The rod 14 is fixedly inserted into one end of the coupling member 19 and the brush 17 is fixedly inserted into the other end thereof. The other end of the rod 14 with the brush 17 inserted thereto is pressed flat by means of a press machine, not shown. At this time, the brush 17 becomes flat so that a lower end surface thereof takes the shape of a straight line. Since the brush 17 is fixedly connected to the rod 14 via the coupling member 19 and is simultaneously maintained in a flat state, when cosmetics are applied using the cosmetic applicator 10 constructed as above, the cosmetics can easily be applied to a desired region without departure from the region by means of the flat face of the brush 17.

When a solid lipstick or a powdered cheek color or eye shadow is applied by using the cosmetic applicator, only the brush 17 comes into contact with the contents of the cosmetics. Thus, the coupling member for fixing the rod 14 and the brush 17, which is made of a metallic material such as aluminum or copper, is not influenced by the contents of the cosmetics. However, when liquid cosmetics are applied by using the cosmetic applicator 10, the coupling member 19 comes into contact with the liquid cosmetics. Thus, there is a problem in that a chemical reaction between the metallic coupling member 19 and the liquid cosmetics occurs and accordingly harmful effects may occur due to contamination of the cosmetics.

An applicator for applying liquid cosmetics such as lip gloss and nail polish for solving the problem is a cosmetic applicator 20 comprising a cylindrical rod 24 formed integrally with or coupled to a grip 23, and a brush 27 fixedly inserted into a lower end of the rod 24, as shown in FIG. 4. The rod 24 is made of synthetic resin so that the rod does not react with the liquid cosmetics even through it comes into contact therewith, thereby allowing easy makeup application.

Further, since liquid cosmetics such as lip gloss and nail polish may become solidified upon contact with outside air, the liquid cosmetics are contained in a container

22 with a mouth through which only a minimum amount of the cosmetics is exposed to the outside air. Accordingly, the rod 24 is constructed to be elongated so that a lower end surface of the brush 27 fixedly inserted into the rod 24 comes into contact with a bottom surface of the container 22 when the rod 24 is accommodated in the container 22, and to have a diameter by which the rod can be inserted and withdrawn from the container 22 through the mouth of the container. When the brush 27 is smeared with the liquid cosmetics through repeated lifting and lowering of the rod 24, the cosmetic applicator 20 is withdrawn from the container 22 and used for applying the cosmetics to a desired region of the human body.

However, in the cosmetic applicator 20, since the brush 27 is fixedly inserted into the lower end of the cylindrical rod 24, the brush 27 has a circular cross-section in the same manner as the rod 24. Further, since the state where the brush 27 is fixedly inserted into the lower end of the rod 24 corresponds to a state where an upper portion of the brush 27 is secured to the interior of the rod 24, a gap is produced between the portion of the brush 27 placed in the rod 24 and an inner periphery of the rod 24. Therefore, when a user applies makeup using the cosmetic applicator 20 while exerting excessive force on the cosmetic applicator, there is a problem in that the brush 27 is extensively spread and departs from a desired region to which the cosmetics will be applied. The round brush is convenient by nature for use in application to a wide region without minute depiction. However, if lip gloss is applied to user's lips by using the cosmetic applicator 20, there is a problem in that bristles of the brush are excessively spread and depart from the user's lip lines and thus the lip gloss is applied to other, unwanted regions of facial skin.

Moreover, since the brush 27 should be smeared with the liquid cosmetics whenever the cosmetic applicator 20 is used, the brush should be caused to repeatedly inserted and withdrawn from the container 22. At this time, some of the bristles 28

defining an outer face of the brush 27 repeatedly come into contact with the mouth of the container 22, and thus, there is a problem in that the bristles become curved outward, entangled or fall out. Further, when the liquid cosmetics are applied by using the cosmetic applicator with the bristles 28 of the brush curved outward, there is a  
5 cumbersome problem in that a region in addition to the desired region is smeared with the cosmetics due to the outwardly curved bristles and thus the cosmetics adhering to the undesired region should be removed and the liquid cosmetic should be correctly applied again to the desired region.

## 10 Summary of Invention

The present invention is conceived to solve the aforementioned problems. An object of the present invention is to provide a cosmetic applicator, wherein a lower end  
15 itself of a rod into which a brush is fixedly inserted is pressed flat so that the brush has a flat face, whereby cosmetics can be easily applied to margins of a region where the cosmetics are to be applied, contact of the brush with a mouth of a cosmetic container is reduced so that bristles of the brush are prevented from being curved outward or entangled, and an additional means is not required for flattening the brush so that the components of the cosmetic applicator are simplified and productivity thereof can be  
20 enhanced.

## Brief Description of Drawings

FIG. 1 is a perspective view showing a state where a cosmetic applicator  
25 according to the present invention is separated from a container;

FIG. 2 is a perspective view taken along line A-A in FIG. 1;



FIGS. 3a and 3b are perspective views showing states where the cosmetic applicator according to the present invention is used; and

FIGS. 4 and 5 are perspective views of conventional cosmetic applicators.

5 Explanation of reference numerals for designating main components in the drawings

1: Cosmetic applicator

2: Container

3: Grip

10 4: Rod

5: Hole

6: Fixing portion

7: Brush

8: Bristles

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#### Detailed Description of the Preferred Embodiment

A cosmetic applicator 1 for achieving an object of the present invention comprises a brush 7 formed of a plurality of bristles 8, a fixing portion 6 having one end  
20 formed with a hole 5 into which the brush 7 is fixedly inserted, and a rod 4 that is coupled to and supports the fixing portion 6. The fixing portion 6 is made of a plastic material and formed to be flat through a pressing process so as to secure the brush 7, which is inserted into the hole 5, in a flattened shape. Thus, the brush 7 allows cosmetics to be easily applied. Further, since the brush 7 is secured to the fixing  
25 portion 6 to be flat, the bristles 8 of the brush 7 are prevented from being curved outward or entangled even though the brush 7 is inserted or withdrawn from a container

2 with a small mouth. Accordingly, damage to the brush 7 can be avoided.

Preferably, the rod 4 is made of plastic synthetic resin and the fixing portion 6 is formed integrally with the rod 4 at an end thereof so as to secure the brush 7 in the flattened shape. Thus, since an additional fixing member for securing the brush 7 in the flattened shape is not required, production costs can be lowered and productivity thereof can be enhanced by simplifying the components of the cosmetic applicator. Moreover, since the plastic synthetic resin is used as a material for the rod 4, contamination of liquid cosmetics and harmful effects resulting therefrom can be prevented even when the rod 4 comes into contact with the liquid cosmetics.

Hereinafter, the cosmetic applicator of the present invention for specifically achieving the object will be described with reference to the accompanying drawings. Particularly, an embodiment of the cosmetic applicator of the present invention which is used for liquid cosmetics will be described by way of example.

FIG. 1 is a perspective view showing a state where the cosmetic applicator 1 according to the present invention is separated from the container 2. The cosmetic applicator comprises a grip 3 for use in opening and closing the container 2 with liquid cosmetics contained therein, the rod 4 protruding from the bottom of the handle 3, and the brush 7 formed at a lower end of the rod 4.

The rod 4 is formed in the form of a cylinder such that it has a predetermined length for enabling the rod to be inserted into the container 2 and smeared with the liquid cosmetics and has a diameter smaller than that of the mouth of the container 2. The longitudinally perforated hole 5 is formed within the rod 4 so that the brush 7 is fixedly inserted into an end of the rod through the hole. The grip 3 detachably coupled to the container 2 to open and close the container 2 is formed integrally with or separately from the other end of the rod.

Further, the rod 4 is made of plastic synthetic resin that does not chemically



react with the liquid cosmetics such as nail polish or lip gloss liquid upon contact therewith.

In addition, the rod 4 is a means for lifting or lowering the brush 7 so that the brush 7 can be smeared with the liquid cosmetics. The shape of the rod in cross section is not limited to a circular shape but may be formed in a variety of shapes such as a rectangle or an ellipse.

The brush 7 consists of the plurality of bristles 8 and is a means for applying the cosmetics to desired regions of the human body while being smeared with the liquid cosmetics contained in the container 2. An upper end of the brush is fixedly inserted into the end of the rod 4 through the hole 5 in such a manner that a lower portion of the brush 7 protruding outside the rod is preferably about 0.5 cm to 2 cm in length when the upper end of the brush 7 is fixedly inserted into the hole 5 of the rod 4. In a case where the brush 7 is intended to be used for lipstick or powdered eye shadow, the brush 7 may be formed to be longer in length. Further, the brush 7 consists of fibers or bristles made of synthetic resin with good liquid-holding and storing properties.

When the brush 7 is fixedly inserted into the open hole 5 of the rod 4 as described above, a force is exerted on an outer periphery of the lower end of the rod 4 by a press machine of a cosmetic applicator manufacturing machine, not shown, so that the lower end of the rod can be plastically deformed and pressed flat so as to form the fixing portion 6. At the same time, the upper portion of the brush 7 that is inserted into the hole 5 of the fixing portion 6 is pressed together therewith. Thus, the bristles 8 of the brush 7 are densified and secured while being in close contact with an inner periphery of the rod 4. At this time, according to the configuration of the press machine, not shown, the rod 4 may be pressed at the outer periphery of the rod 4 in a fore and aft direction so that the fixing portion 6 takes the shape of a straight line in cross section, or in both the fore and aft and right and left directions so that the fixing

portion 6 takes the shape of a rectangle in cross section.

Therefore, the brush 7 fixed in the flattened shape by the fixing portion 6 formed integrally with the rod 4 allows the cosmetics to be easily applied to a wide region, or even a narrow region or a region that requires delicate operation by means of distal ends or side faces of the bristles 8, in view of the nature of the cosmetic applicator 1 taking the flattened shape. Since the upper portion of the brush 7 is maintained in the pressed state by means of the fixing portion 6, the bristles 8 of the brush 7 protruding below the rod 4 are prevented from being outspread and thus makeup can be easily applied.

Next, states where the cosmetic applicator 1 constructed as above are used will be described with reference to the accompanying drawings.

FIG. 3a is a perspective view showing a state where the cosmetic applicator 1 of the present invention is used for applying liquid cosmetics such as a lip gloss to lips. The lip gloss is applied to a relatively wide region of the lips by using a flat face of the brush 7, while lip lines are drawn by using a side edge of the brush 7. Since the brush 7 are in close contact with one another by the fixing portion 6 of the rod 4, the bristles 8 of the brush 7 are not outspread. Thus, makeup can be easily applied.

FIG. 3b is a perspective view showing a state where the cosmetic applicator 1 is used for applying nail polish to a nail. Since the brush 7 is supported by the fixing portion 6 of the rod 4 and takes the shape of a straight line in cross section, the bristles 8 of the brush 7 are uniformly outspread when the nail polish is applied to the nail by means of the flat face of the brush 7. Thus, the nail polish can be uniformly applied to the nail. Further, since the fixing portion 6 supports the upper portion of the brush 7, the nail polish can be easily applied even upon changing the force exerted on the applicator by a user or even to regions of nails to which it is difficult to apply nail polish.

Meanwhile, since the liquid cosmetics are contained in the container 2 with the



relatively small mouth, the cosmetic applicator 1 should be frequently inserted and withdrawn from the container 2 through the mouth in order to cause the brush of the applicator to be smeared with the cosmetics. Since the brush 7 of the cosmetic applicator 1 is in close contact with the fixing portion 6 of the rod 4, the brush 7 pressed to be in the flattened state barely comes into contact with the mouth of the container 2 even though the applicator 1 is frequently inserted and withdrawn from the container 2 with the small mouth. Thus, the bristles 8 are prevented from being curved outward or entangled. Accordingly, distortions of the shape of the bristles 8 can be avoided.

According to the cosmetic applicator of the present invention, since the fixing portion is formed by pressing the lower end of the rod to which the brush is secured so that the lower end becomes flat, the brush has the flat face by means of the pressed fixing portion and the bristles of the brush are densified and come into close contact with the inner periphery of the fixing portion. Therefore, there is an advantage in that when cosmetics are applied to a desired region of the human body, the cosmetics can be easily applied to regions requiring delicate operations by using the brush with the flat face obtained by means of the fixing portion.

Further, since the rod of the cosmetic applicator of the present invention is made of plastic synthetic resin, it does not chemically react with liquid cosmetics such as lip gloss and nail polish as well as solid cosmetics such as lipstick and eye shadow even though it comes into contact therewith. Thus, the occurrence of harmful effects is avoided when the cosmetics are applied to a skin. Since the brush is formed in the flattened shape by pressing the lower end itself of the rod to which the brush is coupled rather than by using an additional fixing member, the components of the cosmetic applicator can be simplified and the effects of applying the cosmetics can be enhanced. Accordingly, productions costs of the cosmetic applicator can be lowered and productivity thereof can also be enhanced.



In addition, since the brush of the cosmetic applicator constructed as above is pressed and secured by the fixing portion of the rod, there is an advantage in that even when the brush is inserted and withdrawn from the container with the small mouth, it is possible to prevent the bristles of the brush from being curved outward or entangled, or

5 falling out.

## CLAIMS

1. A cosmetic applicator, comprising:

a brush (7) consisting of a plurality of bristles (8);

5 a fixing portion (6) with a hole (5) formed at one end thereof so that the brush (7) is inserted into the hole; and

a rod (4) coupled to the fixing portion (6) to support the fixing portion (6),

wherein the fixing portion (6) is made of a plastic material and formed to be flat through a pressing process, thereby securing the brush (7) inserted into the hole (5) in a flattened

10 shape.

2. The cosmetic applicator as claimed in claim 1, wherein the rod (4) is made of plastic synthetic resin, and the fixing portion (6) is formed integrally with an end of the rod (4).

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FIG. 1

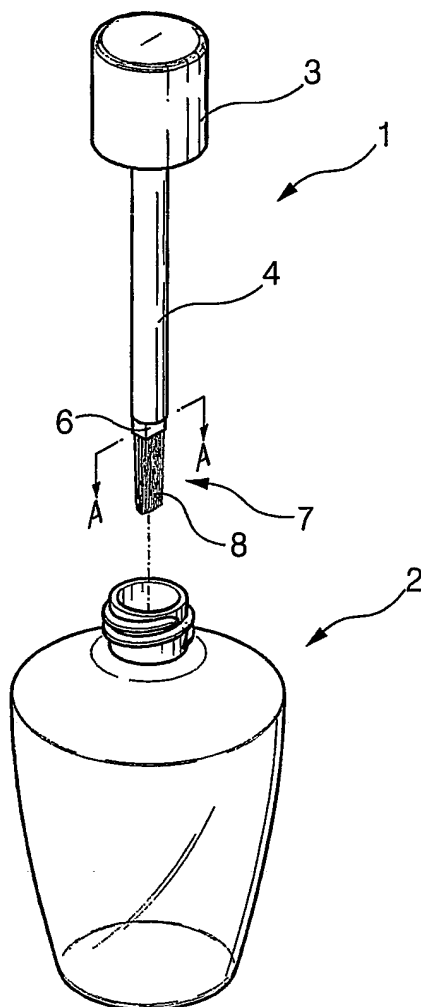
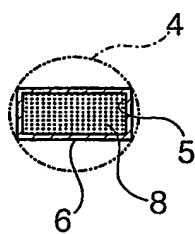


FIG. 2



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FIG. 3a

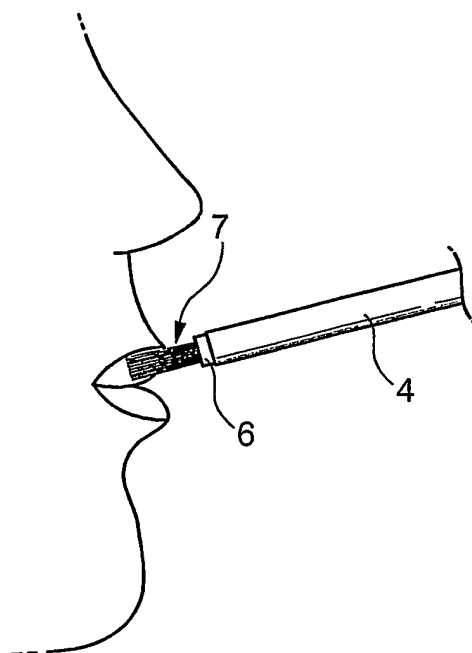
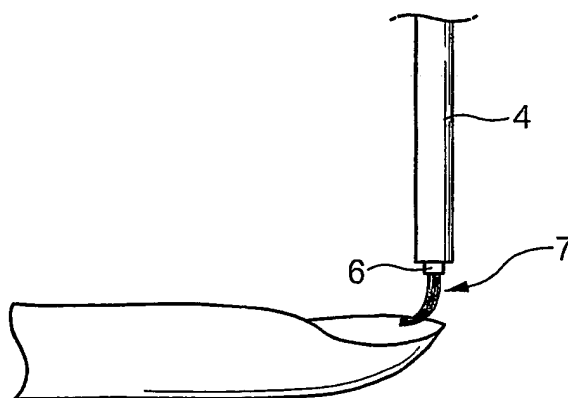
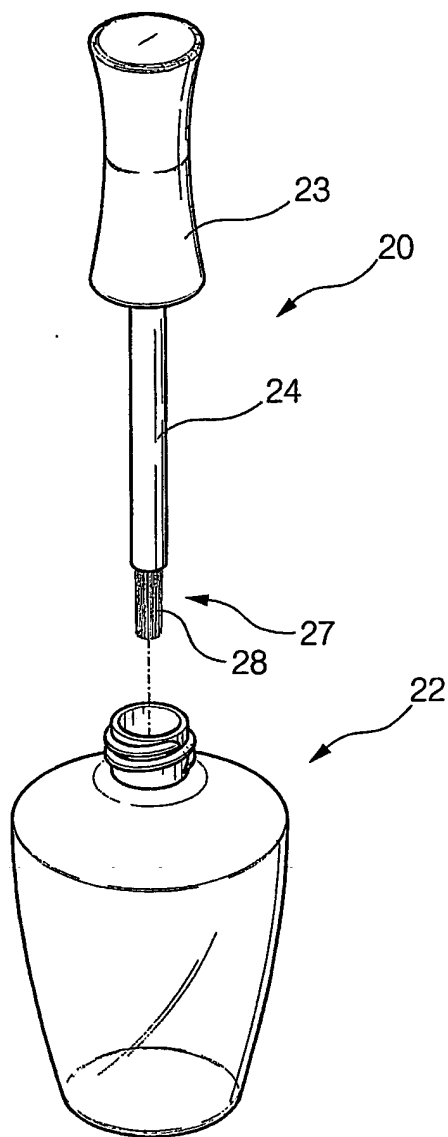


FIG. 3b



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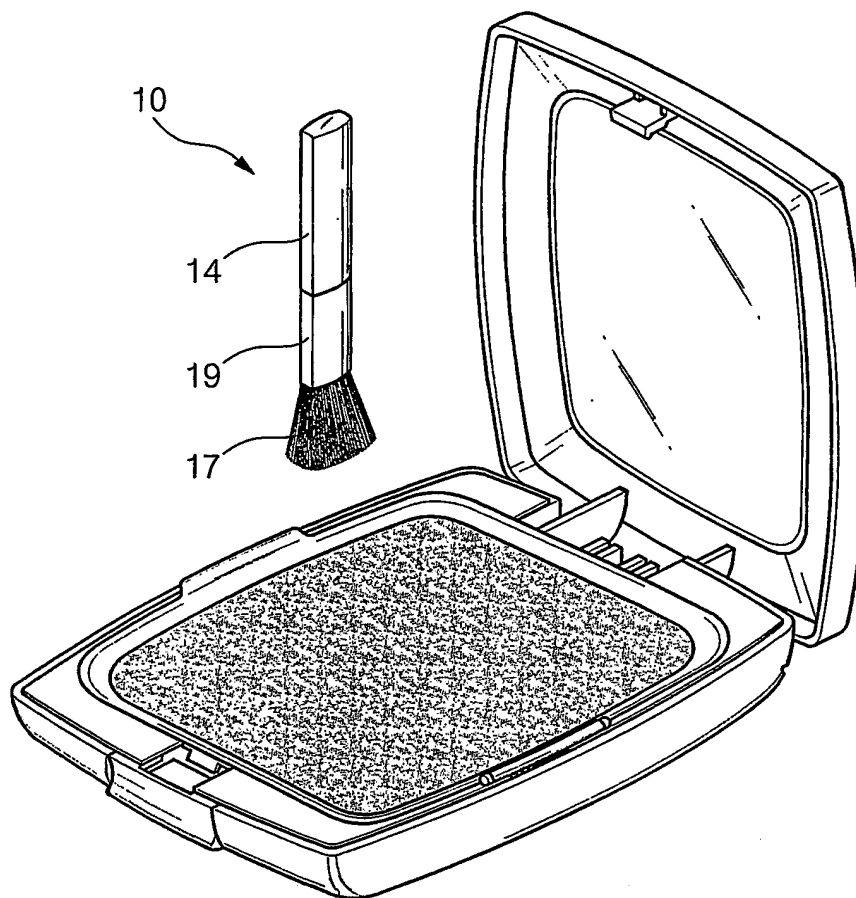
FIG. 4





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FIG. 5



# INTERNATIONAL SEARCH REPORTS

International application No.  
PCT/KR03/00596

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 A45D 40/26

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR : IPC as above

JP (utility models) : IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| A         | US 6,073,634 A (L'OREAL) 13 JUNE 2000<br>See the whole document                    | 1, 2                  |
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| A         | KR 294038 Y1 (YOU, Pan-jong) 4 NOVEMBER 2002<br>See the whole document             | 1, 2                  |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

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# INTERNATIONAL SEARCH REPORTS

Information on patent family members

International application No.

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